

Remarks

The Applicants note with appreciation the Examiner's comments concerning the Information Disclosure Statement. The Applicants appreciate that the Information Disclosure Statement was considered despite the fact that the Applicants did not enclose copies of the foreign references set forth in PTO-1449. The Applicants respectfully submit that those references were already of record by way of the International Search Report. Nonetheless, the Applicants submit a new PTO-1449 form with all of the citations from the International Search Report, as well as the publications mentioned in the Applicants' Specification, together with appropriate copies. The Applicants appreciate the Examiner's consideration of the enclosures.

The Applicants note with appreciation the apparent discrepancy in title. The apparent discrepancy is just that. The Applicants' International Application is titled "CURABLE COMPOSITION" as was the Applicants' Application Data Sheet. Both of those items are in conformance with the oath or declaration. There was apparently a minor discrepancy in the courtesy copy of the English application that was submitted. In any event, the title is being changed herein in accordance with the Examiner's request. Therefore, the Applicants enclose a new Declaration with the new title to ensure that the Application is complete in all respects. Entry into the Official File is respectfully requested.

The Applicants acknowledge the objection to the Abstract and have therefore revised it so that it is a single paragraph. Entry into the Official File is respectfully requested.

The Applicants acknowledge the objection to Claim 1 because of the placement of the word "and." That iteration of "and" has been removed. Withdrawal of the objection is respectfully requested.

The Applicants acknowledge the rejection of Claims 1 – 9 under 35 U.S.C. §112 with respect to the “main ingredient.” That language has been removed and substituted with clarifying language. Also, other minor amendments as to form have been made. Those amendments occur in Claims 1 – 3, 6 and 7. Support for the change to the filler with respect to the 60wt% or more may be found in the third full paragraph of page 11 of the Applicants’ Specification, for example. Similarly, support for the amendment wherein the organic filler contains 90wt% or more may be found in the second full paragraph of page 13 of the Applicants’ Specification, for example. The Applicants respectfully submit that all of Claims 1 – 9 are now in conformance with 35 U.S.C. §112. Withdrawal of the rejection is respectfully requested.

The Applicants have added new Claims 10 – 18. They correspond substantially to Claims 1 – 9, respectively, except that Claim 10 recites that the curing composition contains both of the filler and the organic filler. Support may be found in the last paragraph of page 14 of the Applicants’ Specification, for example. Entry into the Official File and consideration on the merits is respectfully requested.

The Applicants acknowledge the rejection of Claims 1, 3 – 6, 8 and 9 under 35 U.S.C. §103 over the hypothetical combination of Mahdi with Toray. The Applicants respectfully submit that one skilled in the art would not make the hypothetical combination for the reasons set forth in detail below.

First, it is helpful to understand, as mentioned in the background portion of the Applicants’ Specification, that, when polysulfide-based sealants based on polyisocyanate compounds are used as sealants for insulating glass manufacture, vehicle window frames and the like with the same formulation as in the curing compositions based on metal oxidizing agents, the strength at break and the hardness of the cured compounds are low. Therefore, the resulting cured compounds have

unsatisfactory properties. This is particularly noted on page 3 of the Applicants' Specification. Also, it is known that carbon black is used as a reinforcing material to improve the hardness of the polysulfide-based sealants. The strength at break of the composition is improved when the amount of carbon black used as a reinforcing material is increased. However, there are serious problems with the use of carbon black. In particular, the storage stability of the base compound is significantly deteriorated and the workability after storage of the base compound is also deteriorated. This results in an unsatisfactory product.

The Applicants have surprisingly discovered that the curing composition as recited in Claims 1, 3 – 6, 8 and 9 has excellent storage stability at the base compound and, additionally, has excellent curability even after storage of the base compound. This is sharply contrasted to the prior belief that utilization of carbon black in connection with polysulfide-based sealants significantly deteriorates the storage stability of the base compound and seriously deteriorates the workability after storage of the base compound.

Of course, it is a sought after advantage of the subject matter of Claims 1, 3 – 6, 8 and 9 to have good storage stability of the base compound and have good strength characteristics. As frankly acknowledged by the Examiner, Toray does not disclose carbon black as a reinforcing material and does not disclose excellent storage stability in the base compound.

The rejection applies Mahdi to Toray for the proposition that Mahdi discloses carbon black as a reinforcing material that provides thixotropic properties to the composition. The problem is that one of ordinary skill in the art would not make this hypothetical combination. The reason why one of ordinary skill in the art would not make the hypothetical combination is for the reasons already set forth by the Applicants in this Amendment and as set forth by the Applicants in their Specification. In particular, it is known that use of carbon black in connection with polysulfide-based sealants

significantly deteriorates the storage stability of the base compound and the workability after storage of the base compound. The fact that carbon black provides increased strength and better thixotropic properties in conjunction with the composition of Mahdi, in no way discloses, teaches or suggests that it would be effective in the context of the Toray curing composition. More particularly, there is nothing in Mahdi that would lead one of ordinary skill in the art to have any expectation that application of carbon black to the polymer having two or more thiol groups per molecule (in combination with the other components of Claim 1) would be successful. Mahdi discloses a very different type of curing composition that is not a polysulfide-based sealant and is in no way suggestive that addition of carbon black would be effective for the purposes intended by the Applicant and, more importantly, is in no way suggestive that carbon black would not cause the same problems with respect to storage stability of the base compound and workability after storage of the base compound as is well known and accepted in this art when utilized in connection with polysulfide-based sealants.

It should be remembered in connection with obviousness rejections that there must be not only a teaching or suggestion for modifications, but also a reasonable expectation of success. The Applicants respectfully submit that the hypothetical combination of Mahdi with Toray fails both prongs of that test. First, there is no teaching or suggestion in either reference that the addition of carbon black would not result in the problems that are notoriously well known with addition of carbon black to polysulfide-based sealants. Therefore, the Applicants respectfully submit that one of ordinary skill in the art would not make the hypothetical combination.

Of even greater importance, however, is the utter lack of reasonable expectation of success that one of ordinary skill in the art would have. As previously noted, it is well known in the art that utilization of carbon black in connection with polysulfide-based sealants results in significant

deterioration of the storage stability of the base compound and significant deterioration of the workability after storage of the base compound. Thus, with those fundamental understandings well in place, one of ordinary skill in the art would have a reasonable expectation of failure, not success, upon making such a hypothetical combination. The expectation would be that the known storage stability problems would manifest themselves.

What the Applicants surprisingly discovered, however, was that, because in particular of the presence of a polymer having two or more thiol groups per molecule, addition of the carbon black can serve as a reinforcing material, but there is no deterioration of the storage stability of the base compound and no deterioration of the workability after storage of the base compound. Accordingly, the Applicants respectfully submit that one of ordinary skill in the art would not make the hypothetical combination and that the subject matter of Claims 1, 3- 6, 8 and 9 is anything but obvious. Withdrawal of the rejection is respectfully requested.

The Applicants acknowledge the rejection of Claims 1, 2 and 7 over the hypothetical combination of Apotheker with Toray. The Applicants respectfully submit that one of ordinary skill in the art would not make the hypothetical combination of Apotheker with Toray for the reasons set forth in detail below.

The Applicants note with appreciation the Examiner's frank acknowledgment that Toray does not disclose utilization of pulverized coal. On the other hand, the Applicants agree that Apotheker discloses finely pulverized bituminous coal at several locations in the Examples. However, the Applicants respectfully submit that one of ordinary skill in the art would not make the hypothetical combination of the bituminous coal of Apotheker with Toray. First, Apotheker is directed to a fluoropolymer composition that has utterly nothing to do with the curing compositions set forth in

Claims 1, 2 and 7. Thus, one skill in the art would not even refer to Apotheker in even the broadest sense, much less the more narrow confines of pulverized coal.

Also, careful review of the general description portion of the Apotheker Specification reveals that there is no discussion concerning pulverized coal at all and, therefore, inherently no discussion as to what advantage would or could be gained by employing pulverized coal in the far different fluoropolymer of Apotheker, much less any advantage that would or could be gained by employing pulverized coal in the thiol-based sealants recited in Claims 1, 2 and 7. For those reasons alone, the Applicants respectfully submit that the hypothetical combination must fail.

Nonetheless, when examining the particular examples that were highlighted in the rejection, it can be seen that one of ordinary skill in the art can glean nothing from the presence of the addition of a minor amount of pulverized bituminous coal to the Apotheker compositions. In particular, reference to Column 10, lines 45 – 54, and Column 16, lines 26 – 35, provide utterly no teachings to those of ordinary skill in the art as to what purpose the finely pulverized bituminous coal actually serves. It is merely one component of a number of elements that are used to form the curable fluoroelastomer composition. Thus, one of ordinary skill in the art would ask the question: What advantage would or could be gained by employing finely pulverized bituminous coal in the Applicants' thiol-based sealants? The answer is that one of ordinary skill in the art would have no idea what the answer would be.

Referring to Column 19, lines 18 – 23 of Apotheker, it is true that that portion of Apotheker states that various embodiments of the composition have the advantage of providing excellent results with examples being high strength and elasticity. However, those teachings from Apotheker do not attribute any particular component to achieving the elasticity and/or achieving the high strength. Those of ordinary skill in the art are left to guess or speculate as to which component(s) provide such

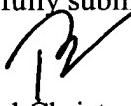
high strength and/or elasticity. There is utterly no guidance at all as to what components provide what advantage.

Remembering again that obviousness rejections require teachings or suggestions to make modifications and a reasonable expectation of success in making those modifications, it can be seen that neither requirement is present in the case of Apotheker hypothetically combined with Toray. Both references are completely devoid of teachings or suggestions to make modifications to apply finely pulverized bituminous coal of Apotheker to Toray. There simply are no teachings in that regard.

More importantly, however, there is nothing in either reference that would lead one of ordinary skill in the art to have any inkling of success, much less a reasonable expectation of success. Therefore, one of ordinary skill in the art would not make the hypothetical combination. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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